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Justin Bailey, MD, FAAFP

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Dr. Bailey loves any and all procedures. In his current position, his focus is teaching full-spectrum medicine and helping family physicians gain all the tools they need to provide exceptional care for their patients. He loves exploring and understanding evidence-based mainstream and alternative treatments that benefit patients, and he has refined a hands-on system for treating musculoskeletal disorders to dramatically diminish opioid dependence in his practice. In addition, he trains family physicians in endoscopy, skin surgeries, hospitalist procedures, and point-of-care ultrasound. In national and local settings, he lectures on primary care endoscopy, musculoskeletal medicine, procedural medicine, and the health benefits of relationships. The author of multiple textbook chapters, journal articles, and Family Physicians Inquiries Network (FPIN) Clinical Inquiries, he currently acts as a local editor for FPIN. Dr. Bailey earned his medical degree from the Medical College of Wisconsin. He completed residency at Eglin Air Force Base Family Medicine Residency, Fort Walton Beach, Florida, and a faculty development fellowship at the University of North Carolina at Chapel Hill. While active-duty Air Force, he taught full-spectrum family medicine and was deployed to Iraq during the Gulf War and to Haiti after the 2010 earthquake.
Learning Objectives

1. Tailor a wide variety of treatment options of MSK pain for your patients.

2. Demonstrate an increased diagnostic accuracy of pain complaints.

3. Explain advantages and disadvantages of these treatment options to patients.

Audience Engagement System

Step 1

Step 2

Step 3
Poll Question 1

Do you enjoy treating Back Pain?

• Yes
• No

Poll Question 2

What is your most common treatment for back pain?

A. Oral Medication
B. Physical therapy referral
C. Specialist referral (spine, ortho, sports med etc)
D. Exercise prescription
Poll Question 3

What is your biggest frustration in treating back pain?

A. Lack of progress in patients treated?
B. Concern Medication misuse, abuse?
C. Being leveraged out but sub specialists?
D. Unrealistic expectations on the part of patients and/or physicians.

Non Opioid Treatment of Back Pain

- What we Do
- Why we do it
- Traditional treatment routes
- Alternative treatment option
- Combination treatment options
**Case 1** - 40 y/o male, new onset non specific low back pain while working at his beet farm. No radiation, Lumbar, 12/10!

- time 0 = Acetaminophen? Ibuprofen? Muscle relaxers? Screen for Red Flags?
- 2 wks = PT? X-rays? Steroids?
- 4wks = Still in pain Tramadol? Opioids?
- 6 wks = MRI? Gabapentin?
- 8 wks = Ready for surgery?
- What does the evidence tell us?

**Acetaminophen?**
Acetaminophen Not Helpful for Back and Neck Pain


This clinical guideline, from Evidence-Based Medicine, Elsevier, lists recommendations regarding the efficacy and safety of acetaminophen for adults with low back pain or neck pain. A literature search identified two clinical guidelines and one systematic review including three randomized controlled trials (RCTs) on the topic, which together provided moderate to high-quality evidence. Outcomes assessed in these trials were pain, disability and quality of life. Both clinical guidelines recommend short-term acetaminophen (paracetamol) as first-line therapy or in case of stomach upset, and NSAIDs as an alternative first-line or as second-line treatment. Other medication classes can also be considered, such as opioids or muscle relaxants. One guideline states that acetaminophen has a better safety profile than NSAIDs. Despite the guideline preference for acetaminophen, however, the three RCTs (1237 patients) demonstrated that acetaminophen was associated with a significantly higher risk of abnormal liver function tests than placebo (66.4 versus 18.4 per 1000 patients, respectively; mean difference 3.8; 95% CI 1.9-7.4, number needed to harm [NNH]=21) based on moderate-quality evidence. Furthermore, efficacy comparisons between acetaminophen and placebo showed no significant difference for pain and disability (on a 1-100 scale) for up to three months, based mainly on high-quality evidence. The authors conclude that acetaminophen is not effective for low back pain or neck pain but potentially harms the liver when compared with placebo; this recommendation is based on high-quality evidence. 12

NSAIDS?
BACKGROUND: Chronic back pain is an important health problem. Non-steroidal anti-inflammatory drugs (NSAIDs) are widely used to treat people with low back pain, especially people with acute back pain. Short term NSAID use is also recommended for pain relief in people with chronic back pain. Two types of NSAIDs are available and used to treat back pain: non-selective NSAIDs and selective COX-2 NSAIDs. In 2008, a Cochrane review identified a small but significant effect from NSAIDs compared to placebo in people with chronic back pain. This is an update of the Cochrane review published in 2008 and focuses on people with chronic low back pain.

OBJECTIVES: To determine if NSAIDs are more efficacious than various comparison treatments for non-specific chronic low back pain and if so, which type of NSAID is most efficacious.

MAIN RESULTS: We included 13 trials in this Cochrane review. Ten studies were at 'low' risk of bias. Six studies compared NSAIDs with placebo, and included 1354 participants in total. There is low quality evidence that NSAIDs are more effective than placebo, with a mean difference in pain intensity score from baseline of -3.30 (95% CI -5.33 to -1.27) on a 0 to 100 visual analogue scale (VAS) with a median follow-up of 56 days (interquartile range (IQR) 13 to 91 days). Four studies measured disability using the Roland Morris Disability Questionnaire. There is low quality evidence that NSAIDs are more effective than placebo on disability, with a mean difference from baseline of -0.85 (95% CI -1.30 to -0.40) on a scale from 0 to 24 with a median follow-up f 84 days (IQR 42 to 105 days). All six placebo controlled studies also reported adverse events, and suggested that adverse events are not statistically significant more frequent in participants using NSAIDs compared to placebo (RR 1.04, 95% CI 0.92 to 1.17). Due to the relatively small sample size and relatively short follow-up in most included trials, it is likely that the proportion of patients experiencing an adverse event is underestimated. Two studies compared different types of non-selective NSAIDs, namely ibuprofen versus diclofenac and piroxicam versus indomethacin. The trials did not find any differences between these NSAID types, but both trials had small sample sizes. One trial reported no differences in pain intensity between treatment groups that used selective or non-selective NSAIDs. One other trial compared diflunisal with paracetamol and showed no difference in improvement from baseline on pain intensity score. One trial showed a better global improvement in favour of celecoxib versus tramadol. One included trial compared NSAIDs with ‘home-based exercise’. Disability improved more in participants who did exercises versus participants receiving NSAIDs, but pain scores were similar.

AUTHORS’ CONCLUSIONS: Six of the 13 included RCTs showed that NSAIDs are more effective than placebo regarding pain intensity. NSAIDs are slightly more effective than placebo regarding disability. However, the magnitude of the effects is small, and the level of evidence was low. When we only included RCTs at low risk of bias, differences in effect between NSAIDs and placebo were reduced. We identified no difference in efficacy between different NSAID types, including selective versus non-selective NSAIDs. Due to inclusion of RCTs only, the relatively small sample sizes and relatively short follow-up in most included trials, we cannot make firm statements about the occurrence of adverse events or whether NSAIDs are safe for long-term use.
Opioids?

Opioids might be minimally helpful in the short term, not in the long term.

Equal to NSAIDS in efficacy


- BACKGROUND: The use of opioids in the long-term management of chronic low-back pain (CLBP) has increased dramatically. Despite this trend, the benefits and risks of these medications remain unclear. This review is an update of a Cochrane review first published in 2007.

- MAIN RESULTS: We included 15 trials (5540 participants). Tramadol was examined in five trials (1378 participants); it was found to be better than placebo for pain (SMD -0.55, 95% CI -0.66 to -0.44; low quality evidence) and function (SMD -0.18, 95% CI -0.29 to -0.07; moderate quality evidence). Transdermal buprenorphine (two trials, 653 participants) may make little difference for pain (SMD -2.47, 95%CI -2.69 to -2.25; very low quality evidence), but no difference compared to placebo for function (SMD -0.14, 95%CI -0.53 to 0.25; very low quality evidence). Strong opioids (morphine, hydromorphone, oxycodone, oxymorphone, and tapentadol), examined in six trials (1887 participants), were better than placebo for pain (SMD -0.43, 95%CI -0.52 to -0.33; moderate quality evidence) and function (SMD -0.26, 95% CI -0.37 to -0.15; moderate quality evidence). One trial (1583 participants) demonstrated that tramadol may make little difference compared to celecoxib (RR 0.82, 95% CI 0.76 to 0.90; very low quality evidence) for pain relief. Two trials (272 participants) found no difference between opioids and antidepressants for either pain (SMD -0.43, 95%CI -0.52 to -0.33; moderate quality evidence) and function (SMD -0.11, 95% -0.63 to 0.42; very low quality evidence). The included trials in this review had high drop-out rates, were of short duration, and had limited interpretability of functional improvement. They did not report any serious adverse effects, risks (addiction or overdose), or complications (sleep apnea, opioid-induced hyperalgesia, hypogonadism). In general, the effect sizes were medium for pain and small for function.

- AUTHORS’ CONCLUSIONS: There is some evidence (very low to moderate quality) for short-term efficacy (for both pain and function) of opioids to treat CLBP compared to placebo. The very few trials that compared opioids to non-steroidal anti-inflammatory drugs (NSAIDs) or antidepressants did not show any differences regarding pain and function. The initiation of a trial of opioids for long-term management should be done with extreme caution, especially after a comprehensive assessment of potential risks. There are no placebo-RCTs supporting the effectiveness and safety of long-term opioid therapy for treatment of CLBP.
Oral Steroids Not Helpful

• ORAL STEROIDS FOR ACUTE RADICULOPATHY DUE TO A HERNIATED LUMBAR DISK: A RANDOMIZED CLINICAL TRIAL

• METHODS: In this double-blind clinical trial, from Kaiser Permanente Northern California, 269 primary care patients with an MRI-confirmed herniated disk, leg pain extending below the knee (for less than three months), and an Oswestry Disability Index (ODI) score of 30 or higher were randomized to a tapered 15-day course of oral prednisone or placebo. Prednisone dosing was initiated at 60mg, decreasing to 40mg and 20mg (five days each, total cumulative dose 600mg). Use of NSAIDs was not permitted during the three weeks following randomization. The primary outcome was the ODI score at three weeks.

• RESULTS: The mean ODI score decreased from 51.1 at baseline to 32.2 at three weeks in the oral steroid group, and from 51.2 to 37.5, respectively, in controls. The adjusted between-group difference was -6.4 points at three weeks (p=0.006) and -7.4 points at 52 weeks (p=0.005). This is unlikely to be clinically significant or noticeable for participants. The active treatment group was more likely than controls to report a 50% or greater improvement in the ODI score at 3 weeks (33.0% vs. 19.8%, p=0.01) and 52 weeks (66.6% vs. 68.4%, p=0.01). There was no significant difference between the groups in the change in the below-waist pain scores at 3 or 52 weeks, or in the percentage undergoing back surgery by 52 weeks (about 9%). At three weeks, adverse events were more frequent in patients randomized to prednisone (49.2% vs. 23.9%, p<0.001), but there were no serious adverse events linked to the study preparations.

• CONCLUSIONS: In patients with lumbar radiculopathy, a course of oral prednisone appears to marginally improve disability but has no significant effect on the more important outcomes of pain or the likelihood of spinal surgery.
NSAIDS + Smooth Muscle Relaxers?

**Nsaid + SMR, Opioids + SMR = Not helpful, harmful**

- (SMR= smooth muscle relaxers)

**BACKGROUND:** Studies assessing the additive benefit of opioids or muscle relaxants to non-steroidal anti-inflammatory medications in patients presenting with acute low back pain have reported varying results.

**METHODS:** In this double-blind trial, coordinated at Montefiore Medical Center, 323 adults aged 21-64 (mean 39) with nontraumatic, nonradicular, musculoskeletal low back pain for two weeks or less were started on naproxen and additionally randomized to a ten-day course of cyclobenzaprine, oxycodone/acetaminophen or placebo. The primary outcome was functional improvement on the Roland-Morris Disability Questionnaire (RMDQ) one week after ED discharge. The RMDQ is scored on a scale of 0-24, with higher scores consistent with greater levels of impairment.

**RESULTS:** Mean baseline RMDQ scores were 19-20 in the three groups. There was no significant difference between the groups in improvement at one week (11.1 points in the oxycodone/acetaminophen group, 10.1 in the cyclobenzaprine group, and 9.8 for placebo-treated controls). Other one-week outcomes were also similar, including pain frequency, pain severity and medication use during the previous 24 hours. Adverse events were more common with oxycodone/acetaminophen than with placebo (Number Needed to Harm [NNH] = 5, 95% CI 3-14) and more common with cyclobenzaprine than placebo (NNH = 8, 95% CI 4-129). Physical function and pain did not differ between groups at three months.

**CONCLUSIONS:** In this study, combination regimens did not improve functional outcomes in non-traumatic low back pain, but did increase adverse effects.
Screening for Red Flags?

Most Red Flags Aren’t Correlated with Cancer

- MOST RED FLAGS FOR MALIGNANCY IN LOW BACK PAIN GUIDELINES LACK EMPIRICAL SUPPORT: A SYSTEMATIC REVIEW

- BACKGROUND: Although the lifetime prevalence of low back pain is about 80%, underlying malignancy is the source of pain in less than 1% of cases presenting to primary care. Selected “red flags” are thought to be reliable predictors of malignancy, but the accuracy of these signs and symptoms is uncertain.

- RESULTS: The prevalence of spinal malignancy varied depending on the care setting, from 0% to 0.7% in primary care and up to 7% among patients referred to radiography. A total of 16 guidelines endorsed 13 red flags for malignancy in patients with low back pain (i.e., history of malignancy, unexplained weight loss, pain at night, older age, malaise, lack of improvement with medical care, strong clinical suspicion, fever, poor appetite, rapid fatigue, progressive symptoms, multiple cancer risk factors and paraparesis), while two red flags were not endorsed in guidelines (symptom duration longer than one month and poor balance/limb weakness). Data on diagnostic accuracy were available for only seven red flags, and only two had moderate-quality evidence for being clinically informative: history of malignancy (LR of 6.4-15.3) and strong clinical suspicion (LR of 12.0-54.2). The origin of five of the red flags was unclear. Some of the red flags lack precise definitions and may overlap with each other.

- CONCLUSIONS: These findings suggest that the evidence base is weak for most red flags purporting to identify a risk of malignancy as a cause of low back pain, and that only a history of cancer and clinical suspicion have potential clinical utility. 50 references (a.verhagen@erasmusmc.nl)
Physical therapy

Physical Conditioning vs. Usual care vs. Exercise therapy remains uncertain.

**Title:** Physical conditioning as part of a return to work strategy to reduce sickness absence for workers with back pain Frederieke G Schaafsma published: 30 August 2013 **Editorial Group:** Cochrane Back and Neck Group **DOI:** 10.1002/14651858.CD001822.pub3

**Authors' conclusions:** The effectiveness of physical conditioning as part of a return to work strategy in reducing sick leave for workers with back pain, compared to usual care or exercise therapy, remains uncertain. For workers with acute back pain, physical conditioning may have no effect on sickness absence duration. There is conflicting evidence regarding the reduction of sickness absence duration with intense physical conditioning versus usual care for workers with subacute back pain. It may be that including workplace visits or execution of the intervention at the workplace is the component that renders a physical conditioning programme effective. For workers with chronic back pain physical conditioning has a small effect on reducing sick leave compared to care as usual after 12 months follow-up. To what extent physical conditioning as part of integrated care management may alter the effect on sick leave for workers with chronic back pain needs further research.
**Gabapentin? Pregabalin?**

**Gabapentin No Benefit in Low Back Pain**

- **BACKGROUND:** In patients with chronic low back pain, the response to analgesic medications is frequently unsatisfactory. Gabapentinoids (e.g., gabapentin and pregabalin) are primarily used for neuropathic pain, but their use is increasing in patients with nonspecific low back pain.

- **METHODS:** The authors, coordinated at McMaster University in Canada, performed a systematic review and meta-analysis of eight randomized controlled trials comparing gabapentin or pregabalin with placebo or active treatment in patients with chronic low back pain for at least three months (range, 13-213 months). The primary outcomes were pain relief on a 0-10 numeric rating scale and safety.

- **RESULTS:** In three studies (185 patients), gabapentin was associated with slightly greater pain relief than placebo (mean difference 0.22 units), while in three studies comparing gabapentin and active analgesic (332 patients), analgesics provided better pain relief than gabapentin (mean difference 0.42 units). The quality of the evidence was very low in both of these comparisons. Results of studies of pregabalin as an adjuvant (423 patients) were not pooled due to heterogeneity, but there appeared to be no benefit of adding pregabalin to tapentadol in the largest of these studies. Results were mixed in studies of pregabalin in patients with components of neuropathic pain. Gabapentin was commonly associated with visual disturbances, difficulties with mentation, dizziness and fatigue (numbers-needed-to-harm [NNH] 6, 6, 8 and 7). Dizziness was increased with pregabalin. There were no differences between active treatment groups and controls in functional improvement, emotional functioning or global improvement.

- **CONCLUSIONS:** The limited available evidence does not appear to support the use of gabapentinoids in nonspecific chronic low back pain.
Pregabalin Not Helpful for Back Pain

• TRIAL OF PREGABALIN FOR ACUTE AND CHRONIC SCIATICA

• BACKGROUND: Pregabalin (Lyrica, Pfizer) is prescribed for the treatment of seizures and certain types of neuropathic pain. Its effects in patients with sciatica are uncertain.

• METHODS: In this double-blind study, from Australia and the Netherlands (one of 13 authors acknowledges lecture fees from Pfizer), 207 adults with moderate to severe sciatica for at least one week were randomized to an eight-week course of adjusted-dose pregabalin (150-600mg/day) or placebo. The study excluded patients with spinal pathology, a planned spinal procedure, or current prescriptions for neuropathic pain or severe depression. The primary outcome was leg pain intensity score over the previous 24 hours, rated from 0 (no pain) to 10 (worst possible pain) at week 8 and week 52. A clinically important difference was defined as 1.5 points.

• RESULTS: Mean baseline pain scores were 6.3 for pregabalin and 6.1 for controls. By week 8 corresponding scores were 3.7 and 3.1, respectively (adjusted mean difference 0.5, p=NS). Week-52 scores were also statistically comparable (3.4 versus 3.0). There were also no significant differences between the groups in the secondary outcomes of disability level, back pain, perceived medication effect, or either physical or mental quality of life at 8 or 52 weeks. Work absence and additional medication use were also comparable. Adverse events were more common with pregabalin than placebo (227 versus 124 events; p=0.002), but the frequency of serious adverse events was similar (2 versus 6). Pfizer Australia supplied the study drug and reviewed the manuscript.

• CONCLUSIONS: Pregabalin was no more effective than placebo in patients with sciatica but caused a higher rate of adverse events. On Goodrx.com, the price for 60 capsules of Lyrica, 75mg, is about $400. 32 references

Surgery?
**Spinal Fusion No Better than Conservative Care**

- The long-term outcome of lumbar fusion in the Swedish lumbar spine study.
- Hedlund B1, Johansson C2, Hägg O3, Fritzell P4, Tullberg T5; Swedish Lumbar Spine Study Group.

**BACKGROUND CONTEXT:** Current literature suggests that in the long-term, fusion of the lumbar spine in chronic low back pain (CLBP) does not result in an outcome clearly better than structured conservative treatment modes.

**PURPOSE:** This study aimed to assess the long-term outcome of lumbar fusion in CLBP, and also to assess methodological problems in long-term randomized controlled trials (RCTs).

**METHODS:** Standardized outcome questionnaires were obtained before treatment and at long-term follow-up. To optimize control for group changers, four models of data analysis were used according to (1) intention to treat (ITT), (2) "as treated" (AT), (3) per protocol (PP), and (4) if the conservative group automatically classify group changers as unchanged or worse in GA (GCAC). The initial study was sponsored by Acromed (US$50,000-US$100,000).

**RESULTS:** Except for the ITT model, the GA, the primary outcome measure, was significantly better for fusion. The proportion of patients much better or better in the fusion group was 66%, 65%, and 65% in the AT, PP, and GCAC models, respectively. In the conservative group, the same proportions were 31%, 37%, and 22%, respectively. However, the ODI, VAS back pain, work status, pain medication, and pain frequency were similar between the two groups.

**CONCLUSIONS:** One can conclude that from the patient’s perspective, reflected by the GA, lumbar fusion surgery is a valid treatment option in CLBP. On the other hand, secondary outcome measures such as ODI and work status, best analyzed by the PP model, indicated that substantial disability remained at long-term after fusion as well as after conservative treatment. The lack of objective outcome measures in CLBP and the cross-over problem transforms an RCT to an observational study, that is, Level 2 evidence. The discrepancy between the primary and secondary outcome measures prevents a strong conclusion on whether to recommend fusion in non-specific low back pain. (Mannion, A.F., et al, Spine J 16(5):588, May 201)

- A 2013 trial reported that operative management of chronic low back pain offered no benefit versus nonoperative management over eleven years of follow-up. These multinational authors comment on the findings of a newer publication from the Swedish Lumbar Spine Study Group, which offered contradictory results. This randomized trial assessed outcomes of lumbar fusion versus physical therapy in 294 patients with long-standing low back pain, with a mean follow-up of 12.8 years. Patients: global assessment of pain, the primary outcome, showed better efficacy for fusion in the “as treated” and per-protocol populations (better or much better in about 65% for fusion, versus 31-37% with conservative measures). The intention-to-treat (ITT) population, however, did not show superior patient-rated results for fusion. Secondary outcomes of Oswestry Disability Index (ODI), visual analogue scale for pain (VAS), and quality of life were also comparable between groups in all populations. The authors of this commentary disagree with the statement that lumbar fusion is a viable treatment option from the patient’s perspective; they contend that the ITT population is the most reliable group for assessing results in a randomized trial and that patients’ subjective global improvement is subject to poor recall (over 12 years) and/or motivational bias. Conservative management provided in the trial was felt to be below standard of care. These authors also suggest that the Swedish authors (surgeons) had a conflict of interest, as the study was sponsored by Acromed. In short, conclusions about the study should emphasize the ITT analysis, which showed non-significant results for all outcomes.

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**X-rays?**
No!!! Stop doing X-rays!!!

- **American Academy of Family Physicians**
  - Don’t do imaging for low back pain within the first six weeks, unless red flags are present.

- **American Association of Neurological Surgeons and Congress of Neurological Surgeons**
  - Don’t obtain imaging (plain radiographs, magnetic resonance imaging, computed tomography [CT], or other advanced imaging) of the spine in patients with nonspecific acute low back pain and without red flags.

- **American College of Occupational and Environmental Medicine**
  - Don’t initially obtain X-rays for injured workers with acute nonspecific low back pain

- **American College of Physicians**
  - Don’t obtain imaging studies in patients with nonspecific low back pain

- **North American Spine Society**
  - Don’t recommend advanced imaging (e.g., MRI) of the spine within the first six weeks in patients with nonspecific acute low back pain in the absence of red flags.

MRI?
Early MRI = 2-3 times longer return to work and increase cost $13,000

- IATROGENIC CONSEQUENCES OF EARLY MAGNETIC RESONANCE IMAGING IN ACUTE, WORK-RELATED, DISABLING LOW BACK PAIN

- BACKGROUND: Despite evidence-based guidelines advising against early MRI in patients with acute low back pain, including those with radiculopathy, in the absence of "red flags," the early use of MRI in patients with acute low back pain is markedly increasing.

- METHODS: The authors, from Liberty Mutual and the University of Massachusetts, analyzed records for 555 workers compensation claims for acute, disabling work-related low back pain filed in 2006 to compare medical costs and the duration of claimed disability in patients who did or did not have MRI during the initial 30 days after symptom onset. The study excluded patients with established indications for early MRI. Records were evaluated over two years of follow-up.

- RESULTS: Records were consistent with radiculopathy in 40.2% of the patients. Early MRI was performed in 79.8% of the radiculopathy subgroup and in 37.0% of those without radiculopathy. The mean duration of disability after early MRI (or a comparable period in the no-MRI group) was 184 days after early MRI vs. 50 days in the no-MRI group among patients with radiculopathy and 165 vs. 44.4 days, respectively, in those without radiculopathy. After adjustment for severity and demographics, the hazard ratios (HRs) for going off of disability after early MRI in the radiculopathy and no-radiculopathy groups were 0.28 and 0.32 (both p<0.0001). Medical expenditures during follow-up were about $13,000 higher in the groups undergoing early MRI when compared with those not so imaged.

- CONCLUSIONS: These findings demonstrate substantial overuse of early MRI in patients filing disability claims for work-related low back pain, and the adverse consequences of unindicated early MRI in terms of duration of disability and medical costs.

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Do we even like treating back pain?
Physicians Don’t Like Treating Back Pain!


• BACKGROUND: The physician response to patients with medically unexplained symptoms is variable. It often consists of unnecessary testing and treatment and may result in contention between the physician and the patient.

• METHODS: The authors, coordinated at Duke University, surveyed a representative sample of 1,504 US primary care physicians regarding their satisfaction in caring for patients with medically unexplained symptoms. Respondents completed a self-administered questionnaire that focused on four conditions characterized as medically explained (depression and anxiety) and medically unexplained (chronic back pain and fibromyalgia). Participants rated their satisfaction in caring for each condition (0=none; 1=a little; 2=some; 3=a lot) and the extent to which they deemed patients responsible for these conditions (0=not at all; 1=a little; 2=somewhat; 3=a lot). Results included the effect of perceived patient responsibility on PCP satisfaction.

• RESULTS: PCPs reported more satisfaction in treating depression or anxiety compared with back pain or fibromyalgia (e.g., some or a lot of satisfaction in 77% and 71%, respectively, compared with 42% and 35%). Mean satisfaction scores were 2.02 for depression, 1.86 for anxiety, 1.30 for back pain, and 1.15 for fibromyalgia; all pairwise comparisons showed less satisfaction treating unexplained versus explained conditions (p=0.000). PCPs deemed patients to be responsible for depression, anxiety, back pain, and fibromyalgia with scores of 1.06, 1.13, 1.35, and 1.20, respectively, and all comparisons showed that PCPs considered patients with unexplained conditions to be more responsible than those with explained conditions (p<0.005). For all four conditions, PCP satisfaction was lower when they deemed patients responsible for their symptoms (p=0.000).

• CONCLUSIONS: PCPs appear to be less satisfied treating medically unexplained conditions, especially when they consider patients to be responsible for their symptoms. 22 references (simon.brauer@duke.edu )

Can I do anything?
Reassurance that it will go away is helpful

- EFFECT OF PRIMARY CARE-BASED EDUCATION ON REASSURANCE IN PATIENTS WITH ACUTE LOW BACK PAIN: SYSTEMATIC REVIEW AND META-ANALYSIS

- BACKGROUND: Clinical guidelines for low back pain (LBP) recommend reassurance to allay patients’ concerns, but it is unknown whether patient education is effective in providing reassurance.

- METHODS: These multinational authors performed a systematic review of the literature (up to 2014) and meta-analysis of 14 trials (4,872 patients) that examined whether patient education reassures patients with LBP. Included studies were randomized or nonrandomized and involved adults with acute (less than 6 weeks) or subacute (6-12 weeks) LBP. Patients were seen in primary care, and individual patient education was given (eg, written or verbal). Reassurance was measured as psychological outcomes or health care utilization. Primary outcomes were reassurance (at 4 and 12 months) and health care utilization (at 12 months) for patient education versus usual care.

- RESULTS: Reassurance (eg, less fear, worry, or anxiety) was measured in the short term (12 studies) or long term (8 studies) after the intervention. Patient education increased reassurance more than usual care, with moderate-quality evidence for short-term studies (standardized mean difference [SMD] -0.21; 95% CI, -0.36 to -0.07) and high-quality evidence for long-term studies (SMD -0.15; 95% CI, -0.27 to -0.03). Patient education had significantly greater impact when delivered by a physician rather than a nurse or other provider. For LBP-related primary care visits at 12 months (7 studies), moderate-quality evidence showed a greater reduction after patient education than after usual care (SMD -0.14; 95% CI, -0.28 to 0.00).

- CONCLUSIONS: Patient education in primary care appears to be effective for reassuring patients with low back pain.

Placebo Does Work! (but only if you tell them is a placebo)

- OPEN-LABEL PLACEBO TREATMENT IN CHRONIC LOW BACK PAIN: A RANDOMIZED CONTROLLED TRIAL

- BACKGROUND: Some recent studies have found that commonly prescribed drug regimens are not superior to placebo in patients with low back pain, and some have reported a large and clinically significant placebo response.

- METHODS: In this study, from Portugal and the USA, 83 adults with chronic low back pain not treated with opioids were randomized to a three-week course of open label placebo plus usual treatment or usual treatment alone. Patients were told that the placebo contained no medication but might nevertheless have a therapeutic effect. The primary outcomes were change in pain intensity (total pain score rated 0-10, from no pain to worst pain imaginable) and back-related dysfunction on the Roland-Morris Disability Questionnaire (scored 0-24, with higher scores indicating more disability).

- RESULTS: Open-label placebo was associated with significantly greater pain reduction at three weeks compared with standard care (1.49 versus 0.24 point reduction; p<0.001). For pain subscales of minimum pain, usual pain, and maximum pain, the placebo group exhibited reductions of 16%, 30%, and 30%, respectively, while the standard-care group had an increase of 25%, and reductions of 9% and 16%, respectively. The placebo group had a 29% decrease in disability while the standard-care group had no change (p<0.001). In an exploratory follow-up, standard-care patients who switched to open-label placebo also had significant improvements in pain and disability (all endpoints, p<0.001). Limitations include small sample size, short follow-up, and subjective outcomes.

- CONCLUSIONS: Open-label placebo reduced pain and dysfunction in these patients with chronic low back pain.
Summary: Non opioid treatment of back pain

• Reassurance that it will get better
• Placebo, but only if you tell them

Questions?
Do We Make a Difference as The Doctor?

• If Placebo and warm hugs work and
• None of my magic medicines, X-rays, surgeries work?
• How do I feel?

Next patient - Back pain

https://www.reddit.com/r/gif/comments/1w2lgn/and_this_is_why_you_inflate_your_raft_outside/
My Story

• Medical school- Pain 5th vital sign
• The few and curious?
• Is there a better way?

Bridge the clinician-
Research EBM gap

• EBM is our gold standard.
• Are they asking the same question you are?
• Are we able to answer that question?
• Do they have the same skill set you do?
• SPECIFIC question can give you specific answers.
• NON SPECIFIC questions give you…
Example: Cochrane - Do Trigger Points Work?

• Study: Injection therapy for subacute and chronic low-back pain

• Conclusion: There is insufficient evidence to support the use of injection therapy in subacute and chronic low-back pain. However, it cannot be ruled out that specific subgroups of patients may respond to a specific type of injection therapy.

• Included studies:
  • Epidural corticosteroids versus placebo injections
  • Epidural injections with local anaesthetics versus other treatments
  • Facet joint injections
  • Facet joint injections with corticosteroids versus other treatments
  • Facet joint injections with local anaesthetics versus other treatments
  • Local injections with corticosteroids versus placebo injections
  • Local injections with anaesthetics versus placebo injections,
  • Intramuscular injections with Vitamin B12 versus placebo injections

• Should I be surprised with the result?

Dry Needling More Effective than Other Therapies

(Compared acupuncture, sham needling, superficial needling, education, physical therapy)

Evidence for Dry Needling in the Management of Myofascial Trigger Points Associated With Low Back Pain: A Systematic Review and Meta-Analysis.
Liu L1, Huang QM2, Liu QG1, Thitham N1, Li LH1, Ma YT1, Zhao JM1.

OBJECTIVE: To evaluate the current evidence of the effectiveness of dry needling of myofascial trigger points (MTrPs) associated with low back pain (LBP).

DATA SYNTHESIS: A total of 11 RCTs involving 802 patients were included in the meta-analysis. Results suggested that compared with other treatments, dry needling of MTrPs was more effective in alleviating the intensity of LBP (standardized mean difference [SMD], -1.06; 95% confidence interval [CI], -1.77 to -0.36; P=.003) and functional disability (SMD, -0.76; 95% CI, -1.46 to -0.06; P=.03); however, the significant effects of dry needling plus other treatments on pain intensity could be superior to dry needling alone for LBP at postintervention (SMD, 0.83; 95% CI, 0.55-1.11; P<.00001).

CONCLUSIONS: Moderate evidence showed that dry needling of MTrPs, especially if associated with other therapies, could be recommended to relieve the intensity of LBP at postintervention; however, the clinical superiority of dry needling in improving functional disability and its follow-up effects still remains unclear.
“We proved physical therapy doesn’t work and we’re sorry!”

“This illustrates the tension frequently encountered in Cochrane reviews between lumping or splitting of the available evidence: broad inclusion criteria may lump together trials that are too heterogeneous while narrow inclusion criteria, as in this review, result in an incomplete analysis of the available evidence.”

Advice to stay active as a single treatment for low-back pain and sciatica Gunvor Hilde, Calgary, Alberta, Canada, Kåre Birger Hagen, GSK, Pb, Oslo, Norway 19 April 2006 Editorial Group: Cochrane Back and Neck Group. Cochrane withdrawn conclusion withdrawn

Make These Worlds Meet

• Back Pain is the 3rd most common complaint for a Family Doctors

• Back pain is not simple, it’s complex

• Who is hero of Complex?
Physicians are show less burn out when practicing broader skill sets, increase patient satisfaction, and use less opioids medications

- Burnout and the Scope of Practice in New Family Physicians, Weidner et al Ann Fam Med May/June 2018 vol. 16 no. 3 200-205


- Lets explore extended skill sets
Learning to read back pain

• History
• Physical exam
• Are studies that ask the same questions you are?
• Treatment options

History

• Where does the pain radiate?
• Watch their Body language as they describe!
• 12/10?
• How long?
• Worse or better?
Body language: pointing, sweeping, cupping
Your History Guides Your PE

- Starts with where they “show” you
- Exam both muscles and skeletal
Case for Physical Exam-

- 35 y/o Chronic Opioids and BZD, Multiple Mental Health diagnosis.
- PE- thankful tears!
- If your only back exam is non specific percussion, and non specific observation, you will find non specific back pain.

Physical Exam

- Focus your exam with where they “show” you
- Exam boney alignment, muscles and soft tissue
Skeletal - Get a Straight Start

• Helps produce neutral position

PE - Skeletal: Back pain starts at the foundation
When you go see a back pain patient

Awkward little girl template: imgur.com

Micheal Sweerts self portrait 1661
Muscle

- Palpation is soft and firm
- What Motion makes it hurt.
- What’s the texture- firm vs soft, asymmetry, non uniform, pyramids, chords, layers
- Make “Non specific” back pain SPECIFIC!!!
- You have to look, it’s almost always there.
Feel the Difference

Special Tests

• Straight leg
• Spurling’s
• Galens, Patricks, Storks???
Treatment

• If it’s muscle, treat muscles
• If it’s skeletal, treat skeletal
• If it’s fascia treat fascia
• If it’s all then treat all!

• Nerve compression follows dermatomal patterns

• Trauma may warrant X-rays
Where Do We Look?

Non Pharm for Chronic Back Pain

<table>
<thead>
<tr>
<th>Method</th>
<th>Effect</th>
<th>Foot notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yoga vs Usual</td>
<td>Moderate for pain</td>
<td>24 vs 37 on 100 pt VAS</td>
</tr>
<tr>
<td></td>
<td>Moderate for function</td>
<td>18 vs 21 on 100 pt ODI</td>
</tr>
<tr>
<td>Motor Control Exercise</td>
<td>Moderate</td>
<td>-12.48 (-19.04 to -5.93) on 100 pt scale</td>
</tr>
<tr>
<td>Tai Chi</td>
<td>Small to Moderate in pain</td>
<td>RR 0.64 &gt;30 % improvement at 24 weeks</td>
</tr>
<tr>
<td></td>
<td>Small in function</td>
<td>-1.37 &gt;30 % improvement at 24 weeks</td>
</tr>
<tr>
<td>Mindful-Based Stress Reduction</td>
<td>Improved</td>
<td>RR 0.64 &gt;30 % improvement at 24 weeks</td>
</tr>
<tr>
<td>Biofeedback</td>
<td>Moderate pain improvement</td>
<td>SMD -0.8 (CI 1.32 to -0.28)</td>
</tr>
<tr>
<td></td>
<td>No function improvement</td>
<td>SMD -0.6 (-0.97 to -0.22)</td>
</tr>
<tr>
<td>CBT</td>
<td>Moderate pain</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No benefit in Function</td>
<td></td>
</tr>
<tr>
<td>Non Pharm Effect</td>
<td>Foot Notes</td>
<td></td>
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<tr>
<td>------------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>Exercise vs Usual</td>
<td>No Effect</td>
<td></td>
</tr>
<tr>
<td>Acupuncture vs Sham</td>
<td>Small- Moderate Effect</td>
<td></td>
</tr>
<tr>
<td>Acupuncture vs NSADIS</td>
<td>Acupuncture slightly better</td>
<td></td>
</tr>
<tr>
<td>Massage vs Sham Massage</td>
<td>Moderate effect on pain and function at 1 week no difference at 5 weeks</td>
<td></td>
</tr>
<tr>
<td>Spinal Manipulation vs Sham</td>
<td>varied no effect to moderate in function and pain</td>
<td></td>
</tr>
<tr>
<td>Trigger Point Injection</td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td>Heat Wrap</td>
<td>Moderate on pain and function</td>
<td></td>
</tr>
<tr>
<td>Lumbar Support vs Activity</td>
<td>no difference</td>
<td></td>
</tr>
<tr>
<td>Low Level Light Therapy vs Sham</td>
<td>Small</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>My Tool Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>• OMT</td>
</tr>
<tr>
<td>• Trigger point</td>
</tr>
<tr>
<td>• Fascial distortion model</td>
</tr>
<tr>
<td>• Physical therapy</td>
</tr>
<tr>
<td>• TENS</td>
</tr>
<tr>
<td>• Exercise prescriptions</td>
</tr>
<tr>
<td>• Basic pharm</td>
</tr>
</tbody>
</table>
OMT

- **Muscle Energy**- Active resistance
- **Counter strain**- positioning and pressure to relieve pressure points
- **HVLA- High Velocity, Low Amplitude**- relieves restrictive barriers and returns the body to normal anatomic function
- **Myofascial release**- soft tissue techniques to increase movement and decrease pain (rolfing and foam rolling are self myofascial release)
- **Fascial Distortion Model**- newer subset of myofascial release

Muscle energy
Counter Strain
I’m Not a DO? How Do I Get Training?

• Do you know an osteopath?
• Mentors
• Weekend courses
• Fellowships

Trigger Point Injections
Trigger Point Injection

- CME
- Mentor
- Apps
Fascial Distortion Model

- System of using patient cues to help find and treat the pain
- Quick results
- Can be painful during treatment

FDM – Hand/Body Language

Schulstrasse 7, Frankfurt, DEU 60594
FDM – Language - CD

- CD Body Language
- Pointing with one finger to site of pain
- Usually on tendon insertion or ligament insertion into bone
- Can be a point within soft-tissue
Herniated Trigger Points (HTPs) are fascial distortions in which underlying tissue has protruded through an adjacent fascial plane and has become entrapped.

Typaldos, FDM 4th edition, 2002, p. 27

- HTP Body language
- Pointing with one or more fingers into site of protrusion
- Kneading, prodding of tissue
- For deltoid and other extremity HTPs, hand signals may be more subtle
FDM – TB – Artist’s Rendition

Acute Trigger Band

Chronic Trigger Band

- Broken crosslinks
- Adhesions
- Healing crosslink
- Crossbands

FDM – Language - Trigger Band

Trigger Band Body Language

Sweeping motion with fingers along trigger band pathway

Trigger Band Verbal Language:

Burning or pulling pain along course of linear path
**FDM – Cylinder Distortion**

- The weird one:
- Patients with Cylinder Distortion often are labeled as:
- Malingerers, Bizarre, “it’s all in your head”
- Symptom-magnifiers
- “Anatomically, cylinder distortions are tangled coils of circular fascia which pathologically restrict motion by acting as a tourniquet around muscles or other tissue.”
- The complaint of pain jumping from one area to another is expected with cylinder distortions… and the pain seems to periodically and abruptly change its anatomical location (Typaldos, FDM manual page 47 edition 4)

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**FDM – Language - Cylinder Distortions**

- Cylinder Distortion body language:
- Repetitive squeezing of affected soft tissues
- Sweeping with open palm over entire limb
- Cylinder Distortion verbal language:
- “It’s deep in there somewhere, but I can’t seem to find it”
- “The pain seems to jump around”
Both groups improved, FDM improved faster with less medicine use

- Efficacy of Fascial Distortion Model Treatment for Acute, Nonspecific Low-Back Pain in Primary Care: A Prospective Controlled Trial.
- Richter D, Karst M, Buhk H; Fink MG.
- **Context:** Low-back pain (LBP) is a prevalent and potentially crippling condition for which treatment is often unsatisfactory from the perspectives of physicians, patients, and payers. The application of the fascial distortion model (FDM), an integrated concept for the diagnosis and manipulative treatment of musculoskeletal disorders, is conceptually promising for LBP but has not been investigated systematically.

- **Objective:** The study intended to provide proof of concept to establish the noninferiority of the FDM treatment as opposed to the therapy recommended by the German National Disease Management Guideline (NDMG) for acute LBP. Design • The study was a prospective, nonrandomized, controlled, parallel-group trial. Setting • The study took place in a private practice for surgery and orthopedics.

- **Participants:** Seventy-seven outpatients with acute LBP with an average age of 42.6 ± 13.5 y, 50.6% of whom were male, took part in the study. Intervention: Participants in the intervention group (FDM group) received osteopathic manipulative treatments according to the FDM, whereas the control group (NDMG group) received an active control treatment following the NDMG.

- **Outcome Measures:** Comparing the FDM group (n = 39) and the NDMG group (n = 38), the study measured pain (visual analog scale, patient diary), functional (FFbH-R) and self-reported vocational status, and use of medication (patient diary) at baseline and after 1, 4 and 12 wk of treatment.

- **Results:** The study found marked improvements of the symptoms in both groups, with a faster onset of efficacy and significantly less medication under the FDM treatment. Conclusions • FDM appears to be effective with regard to pain relief and functional improvement for LBP.
Acupuncture for Low Back Pain
AFP 2019 Jul 15; 100(2):89-96

- For chronic low back pain, acupuncture is significantly more effective clinically in the short term than sham acupuncture; both verum and sham acupuncture have large placebo responses. (Evidence rating A)

- Dry needling of trigger points associated with myofascial pain syndromes can be effective in the short term for pain relief and improved range of motion. (Evidence rating B)

- Acupuncture is effective in reducing frequency of chronic daily idiopathic or tension headaches. (Evidence rating A)

Build Your Tool Kit

- Non pharmacologic
- Pharmacologic
Non Pharmacologic: Hands On

• OMT
• Trigger points
• Chiropractic
• Physical therapy
• Massage Therapy
• Yoga- Doyogawithme.com
• Tai-chi

Pharmacologic- Find the specific time to use it!

• Acetaminophen/ paracetamol
• NSAIDS
• Muscle Relaxers
• Systemic Corticosteroids
• Anti depressants
• Benzodizapine
• Anti seizure medications
### Pharmacologic Acute Effect?

<table>
<thead>
<tr>
<th>Medication Type</th>
<th>Effect</th>
<th>Foot Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen</td>
<td>No effect</td>
<td></td>
</tr>
<tr>
<td>NSAIDS</td>
<td>Small</td>
<td>Decrease 8.3 its on 100 pt scale</td>
</tr>
<tr>
<td>Muscle Relaxers (SMR)</td>
<td>Small</td>
<td>1.7 point improvement at 5 days on 10pt scale</td>
</tr>
<tr>
<td>Corticosteroid</td>
<td>No effect</td>
<td></td>
</tr>
<tr>
<td>Benzodiazepine</td>
<td>Small effect</td>
<td>RR 0.5 (41% vs 79% at 5 days with 50% improvement ) No difference at a year</td>
</tr>
<tr>
<td>NSAID vs Acetaminophen</td>
<td>No effect</td>
<td></td>
</tr>
<tr>
<td>Cox 2 vs traditional NSAID</td>
<td>No effect</td>
<td></td>
</tr>
<tr>
<td>SMR + NSAID vs NSAID</td>
<td>No effect</td>
<td></td>
</tr>
<tr>
<td>SMR vs other SMR</td>
<td>No effect</td>
<td></td>
</tr>
</tbody>
</table>

### Pharmacologic Vs Placebo Chronic Effect?

<table>
<thead>
<tr>
<th>Medication Type</th>
<th>Effect</th>
<th>Foot Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSAIDS</td>
<td>Small to moderate pain</td>
<td>Decrease in pain12.4 (95% CI 15.53-9.26) its on 100 pt scale at 12 weeks</td>
</tr>
<tr>
<td></td>
<td>improvement NO improvement</td>
<td></td>
</tr>
<tr>
<td>Opioids</td>
<td>Minimal benefit in pain</td>
<td>-0.43 ( CI 95% -0.5 to -0.33) on 10 pt scale</td>
</tr>
<tr>
<td></td>
<td>and function</td>
<td>-0.26 (CI -0.29 to -0.15) on 1- pt scale</td>
</tr>
<tr>
<td>Tramadol</td>
<td>Small</td>
<td>SMD -0.55 (CI 95% -0.66 to -0.44)</td>
</tr>
<tr>
<td>BZD (tetrazepam)</td>
<td>barely minimal</td>
<td>RR 0.82 (0.72 to 0.94)</td>
</tr>
<tr>
<td>Corticosteroids</td>
<td>No Effect</td>
<td></td>
</tr>
<tr>
<td>SSRI's</td>
<td>no dice</td>
<td></td>
</tr>
<tr>
<td>Duloxetin</td>
<td>minimal</td>
<td>0.58 -0.74 on 10 pt scale</td>
</tr>
</tbody>
</table>
My Practice

- 70% resolved in 1-2 visits
- 20% resolved in 2-6 visits
- 5-10% long term follow up (almost all fibromyalgia)
- A few referrals a year to specialist care
- 0 patient in my practice on opioids

Practice Recommendation

- Selective use of oral medications is prudent,
- Judicious use of imaging
- Patients respond well to hands on therapy and report better outcomes
Practice Recommendation

• History- Learn to recognize common pain radiation patterns

• Physical- Palpate Palpate Palpate light pressure, deep pressure. You'll never find what you're not looking for.

• “Show me where it hurts” How they show you the pain is one of the BEST clues on making the right diagnosis.

• Don’t be afraid to learn something new! The more tools you have the more likely you will be to effectively treat. (Triggers, OMT, FDM, Massage, etc)

• Physical therapy isn’t the only resource in your community. (Yoga, Tai Chi, OMT/Chiro etc)

Conclusion

• Family Docs are the Super hero’s of back pain!
History of Back Pain Treatment

- 6000 BC - Acupuncture
- 4000 BC - Degenerative back changes seen in Neanderthal
- 1500 BC - Opium! (Sumerian and Assyrians on Egyptian scrolls)
- **1500 BC** - Bone Setters and Sprain Rubbers (Sally Mapp)
- 400 BC - Hippocrates - Sciatica (back pain) treatment = spas, warm animal dung wraps, electric eel foot baths (600V)
- Dark ages Rome - No non-religious treatments, Persians to the rescue
- Dark ages Welch Mothers of breech baby “Magical Feet”

Hx of Back Pain Treatment

- 1500-1700’s - Grave robbing and anatomy based disease reintroduced
- 1700’s - Pain from different diseases. Gout vs rheumatic vs sciatica
- **1700** - Sally Mapp
- 1800’s - Treat constipation, blistering and cupping, removal of teeth and nails
- 1800’s - Morphine!!!!
- 1828 - Vertebra and Nerves first associated as a cause of back pain
- 1850’s - Back pain associated with trauma (Railroad Spine)
- 1874 - Cannabis
- 1880’s - Hot spring bathhouses
Hx of Pain Treatment, continued

• 1892 Dr Andrew Still MD starts first osteopathic school.
• 1895 David Palmer Chiropractic schools - magic hands and a deaf janitor
• 1898 Heroin!!! “No addicting properties!!!”
• 1890’s Orthopedics starts to separated from historical bone setters
• 1900’s X-ray and Fusion fever
• 1904 Fibrositis describe (Myofascial pain)
• 1900 200,000 in US addicted to opium. Main ingredient: snake oils.
• 1909 Congress prohibits production and sale of opium, increase oversight of medications
• 1919 Tens unit complete with sponges and jumper cables
• 1939 Methadone!!!

Hx of Pain Treatment, continued

• 1940- Current- The age of the herniated disc
• 1944 Pain clinics. Nerve Block Clinics
• 1947 Dr Janet Travell, MD- Describes “trigger points”
  • (1st female physician to the President of US (JFK))
• 1990’s Dr. Stephen Typaldos, DO develops
  • Fascial Distortion Model (FDM) of treatment
• 1997 Nerve desiccation/ablation
• 2002 16% of drug related ER visits involve pain killers
• Today 64,000 preventable deaths last year opioid abuse
Contact Information

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Questions